

WHAT IS CLAIMED IS:

1. A bumper absorber for protecting pedestrians, which is disposed inside a bumper cover with a longitudinal direction of the bumper absorber for protecting pedestrians being disposed along a vehicle transverse direction and which is formed by a foam for absorbing impact energy, characterized in that said bumper absorber has a cross-sectional configuration, taken orthogonal to the longitudinal direction thereof, which cross-sectional configuration is formed into a shape having a portion in which a front notch portion notched from a vehicle front side and a rear notch portion notched from a vehicle rear side overlap with one another in a vehicle vertical direction, and the bumper absorber has opening means for opening, when a load having a predetermined value or higher is applied from the vehicle front to the bumper absorber, an upper wall portion in an upper direction and for opening a lower wall portion in a lower direction.
  
2. A bumper absorber for protecting pedestrians, which is disposed inside a bumper cover with the longitudinal direction of the bumper absorber for protecting pedestrians being disposed along a vehicle transverse direction and which is formed by a foam for absorbing impact energy, characterized in that a cross-sectional configuration which is orthogonal to the longitudinal direction of the bumper absorber is formed into a W shape having a portion in

which a front notch portion, which is notched from a vehicle front side, and a rear notch portion, which is notched from a vehicle rear side, overlap with one another in a vehicle vertical direction.

3. The bumper absorber according to claim 1 or 2, further comprising opening controlling means for controlling opening of the upper wall portion and the lower wall portion at an initial stage when a load is applied from the vehicle front to the bumper absorber.

4. The bumper absorber according to claim 3, wherein the opening controlling means are at least ribs that are provided at the notches at the vehicle rear side so as to be separated from each other at predetermined intervals in a longitudinal direction of the bumper absorber, such that the ribs are broken when the upper wall portion and the lower wall portion are bent and deformed to a predetermined amount.

5. The bumper absorber according to claim 3, wherein the opening controlling means is fixing means for fixing the upper wall portion and the lower wall portion to a bumper reinforcement, and fixing by the fixing means is released when the upper wall portion and the lower wall portion are bent and deformed to a predetermined amount.

6. The bumper absorber according to any one of claims 1 to 5, further comprising a groove which is formed from a side opposite to the front notch portion.
7. The bumper absorber according to any one of claims 1 to 6, wherein a cutting edge angle of the front notch portion and a cutting edge angle of the rear notch portion are each in a range of from 10° to 15°.
8. The bumper absorber according to any one of claims 1 to 6, further comprising convex portions which are formed at an inside of each rear notch portion and which, when a load having a predetermined value or more is applied from the vehicle front to the bumper absorber, are pressed and broken by the bumper reinforcement.
9. The bumper absorber according to claim 4, wherein a width of each of the ribs is from 5 mm to 10 mm and an interval between the ribs is from 30 mm to 50 mm.
10. The bumper absorber according to claim 2, wherein orientations of W shapes in a front-rear direction of the bumper absorber are inverted at predetermined intervals in the vehicle transverse direction.

11. The bumper absorber according to claim 10, wherein boundary surfaces of the inverted W shapes are inclined in a direction in which the inverted W shapes are removed from a mold.

12. A bumper absorber for protecting pedestrians, which is disposed inside a bumper cover with a longitudinal direction of the bumper absorber for protecting pedestrians being disposed along a vehicle transverse direction and which is formed by a foam for absorbing impact energy, characterized in that said bumper absorber has a cross-sectional configuration, taken orthogonal to the longitudinal direction thereof, which cross-sectional configuration is formed into a zigzag shape having a portion in which a front notch portion, which is notched from a vehicle front side, and a rear notch portion, which is notched from a vehicle rear side, overlap with one another in a vehicle vertical direction, and orientations of zigzag shapes in a front-rear direction of the bumper absorber are inverted at predetermined intervals in the vehicle transverse direction.

13. The bumper absorber according to claim 1, wherein the cross-sectional configuration is a zigzag shape.

14. The bumper absorber according to claim 13, wherein the cross-sectional configuration is a shape in which a W is continuous.

15. The bumper absorber according to claim 14, further comprising opening controlling means for controlling the opening of the upper wall portion and the lower wall portion at an initial stage when a load is applied from the vehicle front to the bumper absorber.

16. The bumper absorber according to claim 13, wherein the cross-sectional configuration is formed into a crank shape, and the opening means are inclining surfaces which are formed at the upper wall portion and the lower wall portion, respectively, to form both end portions of the crank shape.

17. The bumper absorber according to claim 11, wherein boundary surfaces for defining the front notch portion and the rear notch portion of the inverted W shapes are inclined in a direction in which the inverted W shapes are removed from a mold such that the front notch portion and the rear notch portion of the inverted W shapes are respectively not communicated with those of the W shapes adjacent to the inverted W shapes in the longitudinal direction of the bumper absorber.

18. The bumper absorber according to claim 12, wherein the cross-sectional configuration is a shape in which a W is continuous.

19. The bumper absorber according to claim 12, wherein the

cross-sectional configuration is formed into a crank shape, and the opening means are inclining surfaces which are formed at the upper wall portion and the lower wall portion, respectively, to form both end portions of the crank shape.

20. The bumper absorber according to any one of claims 1 to 19, wherein a plurality of convex portions is formed at the upper wall portion and the lower wall portion so as to be separated from each other at predetermined intervals in the vehicle transverse direction.